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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,568	03/30/2004	Rahul Gupta	12406-155001 / P2004,0388	3687
26181	7590	04/24/2006	EXAMINER	
FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			GARRETT, DAWN L	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,568

Applicant(s)

GUPTA ET AL.

Examiner

Dawn Garrett

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7 and 9-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7 and 9-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-12-2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 8, 2006 has been entered. Claims 1, 6, 7, and 13 have been amended. Claims 5 and 8 are cancelled. Claims 1-4, 6, 7, and 9-26 are pending.
2. The rejection of claim 13 under 35 U.S.C. 112, first paragraph is withdrawn in light of applicant's remarks.
3. The rejection of claim 24 under 35 U.S.C. 112, first paragraph is maintained for the reasons of record. Applicant states that the specification provides for a light detector device. It is not seen where the specification sets forth a light detecting layer or how one would make such a layer.
4. The rejection of claims 1-4, 6, 7, 9-13, 15-18, 21, and 24 under 35 U.S.C. 102(e) as being anticipated by Ottermann et al. (US 2004/0101618 A1) is withdrawn due to the amendment.
5. The rejection of claims 1-4, 14, 17, 18, 21, and 24 under 35 U.S.C. 102(e) as being anticipated by Sirringhauss et al. (US 2004/0266207 A1) is withdrawn due to the amendment.
6. The rejection of claims 1, 6, 7, 9-12 and 15 under 35 U.S.C. 102(a) as being anticipated by Muller et al. (Nature, 2003) is withdrawn due to the amendment.

Art Unit: 1774

7. The rejection of claims 1-4, 6, 7, 9, 13, 15, 17-22 and 24 under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 2003/0170492 A1) is withdrawn due to the amendment.

8. The rejection of claim 23 over Ottermann et al. in view of Shi et al. (US 5,766,779) is withdrawn due to the amendment.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 6, 7, and 9-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al. (US 6,787,063). Endo et al. discloses electro-optical devices (see abstract). Example 2 describes a device comprising a glass substrate with an indium tin oxide (ITO) coating per the instant "deposition surface" (see col. 11, lines 18-19). Pixels comprised of polyimide film and SiO₂ film formed by lithography are disposed on the ITO anode layer per the instant pocket resist (see col. 11, lines 18-19). The hole injection-transportation composition comprises 11.08% Baytron P (a PEDOT:PSS conductive polymer) per claim 13. The OLED further comprises an emitting layer over the hole injection-transportation layer (see col. 11, lines 46-52). The cathode is formed over the emission layer (see col. 11, lines 53-55). The device may further comprise thin film transistors per instant claim 14 (see col. 10, lines 51-54). With regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for the hole

Art Unit: 1774

transporting layer. Endo et al. clearly discloses multiple organic functional layer disposed between resist material, but does not teach that one of the organic layers is cross-linked. Kwong et al. (US 6,982,179) teaches in analogous art depositing a first organic layer that is insoluble to the second layer (see abstract). One way of achieving insolubility for the first layer is to cross-link the hole transport layer (see col. 10, lines 28-53, Fig. 3 description). Kwong et al. further teaches cross-linking increases the mechanical strength and thermal stability of the thin film layer (see col. 11, lines 38-40). Kwong et al. further teaches blocking layers per claims 17 and 19 (see col. 6, lines 53-67). The cross-linking step taught by Kwong et al. is considered to render the material different from an uncrosslinked material per claim 26. Kwong et al. further teaches other layers may be crosslinked per claim 23 (see col. 11, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the functional layers of a device, including crosslinked layers, taught by Kwong et al. for the Endo et al. device, because the layers taught by Kwong are functional organic layers of an OLED device and Kwong et al. teaches the benefit of crosslinking some of the layers.

11. Claims 1-4, 6, 7, and 9-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwong et al. (US 2004/0214038 A1) in view of Kwong et al. (US 6,982,179). Kwong et al. '038 discloses electronic devices comprising an anode layer formed of ITO (see par. 27) per the "deposition surface", a polyimide photoresist grid (see par. 72) per the resist pocket and a hole injection layer formed by a solution of PEDOT:PSS conductive polymer (see par. 52). The device further comprises an emissive layer (see Kwong et al. '038 claim 5). With regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for

Art Unit: 1774

the hole transporting layer. The device also comprises a cathode (see par. 55) per instant claim 8. Kwong et al. '038 discloses the materials and structures described are applicable to organic electroluminescent devices (OLEDs), organic solar cells, and organic transistors (see par. 60). Kwong et al. '038 clearly discloses multiple organic functional layer disposed between resist material, but does not teach that one of the organic layers is cross-linked. Kwong et al. (US 6,982,179) teaches in analogous art depositing a first organic layer that is insoluble to the second layer (see abstract). One way of achieving insolubility for the first layer is to cross-link the hole transport layer (see col. 10, lines 28-53, Fig. 3 description). Kwong et al. '179 further teaches cross-linking increases the mechanical strength and thermal stability of the thin film layer (see col. 11, lines 38-40). Kwong et al. '179 further teaches blocking layers per claims 17 and 19 (see col. 6, lines 53-67). The cross-linking step taught by Kwong et al. '179 is considered to render the material different from an uncrosslinked material per claim 26. Kwong et al. '179 further teaches other layers may be crosslinked per claim 23 (see col. 11, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the functional layers of a device, including crosslinked layers, taught by Kwong et al. '179 for the Kwong et al. '038 device, because the layers taught by Kwong et al. '179 are functional organic layers of an OLED device and Kwong et al. '179 teaches the benefit of crosslinking some of the layers.

12. Claims 1-4, 6, 7, and 9-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (US 2004/0021413 A1). Ito et al. discloses an electroluminescent display comprising an anode comprising ITO per the deposition surface (see par. 189), partition walls comprising a photoresist material (see par. 189), and a PEDOT:PSS hole injection layer (see par.

Art Unit: 1774

170). With regard to claims 18 and 21, the hole transporting layer made from PEDOT:PSS is deemed to have the property of wave-guiding, because PEDOT:PSS is the same material as taught by applicant for the hole transporting layer. Ito et al. further discloses a luminescent layer (see par. 174) and a cathode (see par. 182). Ito et al. clearly discloses multiple organic functional layer disposed between resist material, but does not teach that one of the organic layers is cross-linked. Kwong et al. (US 6,982,179) teaches in analogous art depositing a first organic layer that is insoluble to the second layer (see abstract). One way of achieving insolubility for the first layer is to cross-link the hole transport layer (see col. 10, lines 28-53, Fig. 3 description). Kwong et al. further teaches cross-linking increases the mechanical strength and thermal stability of the thin film layer (see col. 11, lines 38-40). Kwong et al. further teaches blocking layers per claims 17 and 19 (see col. 6, lines 53-67). The cross-linking step taught by Kwong et al. is considered to render the material different from an uncrosslinked material per claim 26. Kwong et al. further teaches other layers may be crosslinked per claim 23 (see col. 11, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the functional layers of a device, including crosslinked layers, taught by Kwong et al. for the Ito et al. device, because the layers taught by Kwong are functional organic layers of an OLED device and Kwong et al. teaches the benefit of crosslinking some of the layers.

Response to Arguments

13. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1774

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dawn Garrett
Primary Examiner
Art Unit 1774

April 20, 2006